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ABSTRACT

This report presents the views of a group of Connecticut educators, business people, and labor leaders to Baden-Wurttemberg, Germany, where they visited businesses, schools, the chamber of commerce, a labor exchange center, and representatives of the German state's parliament. They learned about the German system of apprenticeship. The observers found the following: (1) in general, the U.S. educational system does not provide students in high school an opportunity to connect their in-school learning to what is happening in the real world; (2) employers in many European countries believe in making a long-term investment in young people, even during times of recession; (3) in the German system, at the end of the 10th grade, students choose whether to continue to a school that prepares them for a university or whether to enter an apprenticeship and continue their education in a workplace setting and a vocational college; (4) about 70 percent of German youth choose the apprenticeship route; (5) the apprenticeship system is prescribed in federal law and the roles of business, unions, and schools are all assigned; (6) a student can enter an apprenticeship in one of 380 different job categories, each of which has national standards developed by industry so that employers throughout the country understand what graduates should know and be able to do; (7) the apprenticeships take from 2-3 years to complete, during which time students are paid and spend about two-thirds of their time in the workplace and the rest of time in school; and (8) the system has a great deal of support in the country. The observers concluded that Connecticut should create a school-to-work program for 11th and 12th graders that would fit into U.S. culture--and make it a priority. (KC)

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VISITING THE COMPETITION

**The report of a trip by
Connecticut educators, business people and labor leaders
to study apprentice programs in Europe in June, 1994.**

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January, 1995

VISITING THE COMPETITION

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Connecticut educators, business people and labor leaders
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January, 1995

APPRENTICESHIP STUDY GROUP

January, 1995

Dear Colleague:

Because Connecticut is moving toward implementing a system that offers school-to-work transition for all high school students in the state, a group of educators, state officials and people from business and labor traveled to Europe for two weeks this summer to study apprentice programs in Germany, Austria, Sweden and Denmark.

The concept of allowing high school age students to acquire part of their education in the work place is very well developed in these countries. As a group we hoped to learn about their programs and to find new ways of educating that we could incorporate into our own educational system.

We visited businesses, schools, the Chamber of Commerce, a labor exchange center and representatives from the Parliament of the German state of Baden-Wurttemberg.

The trip was mainly funded by the German Marshall Fund and was organized by Lauren Weisberg Kaufman, vice president of the Connecticut Business and Industry Association.

All the people we met were wonderfully welcoming and seemed to take great pleasure in explaining their system of apprenticeship. We were grateful for the way we were received and for the many kindnesses that were shown us throughout the trip.

Please call Lauren Kaufman at 244-1938 or Anne Wingate at 232-1961 if you have an interest in the concept of school-to-work and would like to give some assistance in setting up a system in Connecticut. Please call, also, if you are interested in having someone speak on the European system or the system that is taking shape in Connecticut.

We hope you will find this report of our trip interesting and useful. If you have questions or comments, please send them to Anne Wingate, State Council on Vocational-Technical Education, 60 Lorraine Street, Hartford, Connecticut 06105; Telephone: (203) 232-1961.

EXECUTIVE SUMMARY

High schools in Connecticut tend to focus on helping students prepare for a traditional four-year college educational experience. But large numbers of college students do not complete their course of study and, instead, leave college to enter the work force. At the same time, some students enter the work force directly after high school, while as many as twenty-five percent of students who enter high school do not even graduate. Consequently, there are many more young people trying to enter the labor force without sufficient skills than is usually acknowledged.

In general, the U. S. educational system does not provide students in high school an opportunity to connect their in-school learning to what is happening in the real world outside the school walls.

However, a structured school-to-career system in Connecticut could permit students in high school to combine their studies with exploration of real life jobs that would give them the background to choose their post-secondary education and training with more understanding of the needs of the real world and their own interests.

As part of the effort to create a school-to-career system in the state, a group of Connecticut residents traveled to Europe in June of 1994 to learn about apprentice programs provided by employers for high school students. The group included educators, business people, state officials and a representative from organized labor. Although most of our time was spent in Germany, we also saw programs in Austria, Denmark and Sweden. The trip was mainly funded by the German Marshall Fund and was organized by Lauren Weisberg Kaufman, vice president of the Connecticut Business and Industry Association.

From our research, we knew that employers in many European countries believe in making a long term investment in young people, even during times of recession. We hoped to find out why employers, unions, educators and parents were willing to support the system with enthusiasm.

Using the German system as an example of European apprentice programs, we found it has several characteristics:

- At the end of our equivalent of 10th grade, students choose whether to continue on to a school that prepares them for the university or whether to enter an apprenticeship and continue their education in a combination of a work place setting and a vocational college. Seventy percent, in Germany, eventually choose to continue their education by entering an apprenticeship;

- The apprenticeship system is prescribed in federal law and the roles of business, unions and schools are all assigned. All businesses belong to a chamber of commerce, and the chamber represents employers in administering the system;

- It is possible to enter an apprenticeship in one of three hundred and eighty different job categories. Each of these positions has national standards developed by industry, so that employers throughout the country understand what graduates should know and be able to do;

- The apprenticeships take from two and a half to three years to complete. Students are paid and typically spend three and a half days a week being educated in a work place setting and a day and a half at a regional vocational college;

Our Observations:

- Students who choose to enter an apprenticeship are <u>not</u> leaving school and going to work. They are, in fact, choosing to receive their education in a work place setting. They will continue to study academic subjects but now have work place examples to illustrate what they are learning.

- The education that students in apprenticeships receive is impressive. It is at least equal to what students receive in community/technical colleges in Connecticut, but the students are much younger;

- Preparing for the work force is a major focus of education;

- The educational component of apprenticeships is so high and the quality of training is so good that the apprentice system is valued by society;

- German employers take on apprentices because:
  - -They believe it is the best way to ensure a prepared work force, competitive throughout the world;
  - -They find it increases their productivity;
  - -They believe they have a responsibility to share in the education of the young;
  - -It ensures people are prepared for the jobs that actually exist.

- The system has a great deal of support among business, labor, government, education, parents, students and the community;

- Young people appear to have very strong basic skills by age sixteen. This allows them to succeed in apprentice programs that are rigorous and that hold students to very high standards;

- Europeans have higher expectations of sixteen-, seventeen- and eighteen-year-old students than we do in this country, but the education they receive is connected to the real world in ways that keep the students engaged;

- Most university education is free in the countries we visited, although access is rather limited. But, in general, higher education for working adults is not available in Europe to the extent that it is in the U. S.

- The apprentice programs did not appear to have a structured way to seek out minorities or immigrants or to attract women into apprenticeships for non-traditional areas.

Next Steps

We were impressed by the programs we saw in Europe but believe that Connecticut must construct a career system that fits our culture and our needs.

Recommendations for change:

- We need to create new relationships among employers, labor organizations and educators that emphasize joint responsibility for educating the young;

- High schools should make it possible for many 11th and 12th grade students to spend part of the school day or year in structured programs with employers;

- School-to-work programs should become a priority of the education system;

- All schools should use applied, hands-on curricula because it places learning in context;

- Students should be asked to use and demonstrate what they have learned.

How Do We Move Ahead?

Public Act 94-116, "An Act Concerning Incentives and Training for High Performance Work Organizations and the School-to-Work Career Certificate Program," calls for the beginning of a school-to-work system in Connecticut. The law encourages schools to:

- Create a planned program of learning that takes place both in the school building and in the work place;

- Organize information, instruction and work place experience around career clusters. The state Department of Education has recommended the following clusters:
  1) Arts and Media;
  2) Business and Financial;
  3) Construction: Technologies and Design;
  4) Environmental, Natural Resources and Agriculture;
  5) Government, Education and Human Services;
  6) Health and Biosciences;
  7) Retail, Tourism, Recreation and Entrepreneurism; and,
  8) Technologies: Manufacturing, Communications and Repair;

- Provide students who choose a career cluster the opportunity:
  - -To learn about the industries in the cluster;
  - -To integrate their studies with post-secondary education and the skill standards of the industries;
  - -To spend time in structured work place programs, and,
  - -To earn a statewide career certificate that guarantees that they can demonstrate what they have learned.

As a result of the law, the Connecticut Business & Industry Association has organized groups of employers to create skill standards for each of the eight career clusters. The information developed will be offered to school districts to use as they plan school-to-work programs.

As a group, we admired the way the European societies accept responsibility for helping their young people join the adult world. We think there are probably many ways to do this well. But taking responsibility is the key, and we want to challenge Connecticut's educators, employers and parents to recognize that it is up to all of us to help our children understand how to succeed in their life's work.

VISITING THE COMPETITION

Introduction

High schools in Connecticut tend to focus on helping students prepare for a traditional four-year college educational experience. But large numbers of college students do not complete their course of study and leave college to enter the work force. At the same time, some students enter the work force directly after high school, while as many as twenty-five percent of students who enter high school do not even graduate.

What all these young people have in common is that most of them did not get the opportunity while in high school to make a direct connection with the large number of careers that the Connecticut economy has to offer.

Connecticut needs a structured school-to-work system to permit students in high school to combine their studies with exploration of real life jobs. This could give them the background to choose their post-secondary education and training or employment with more understanding of the needs of the real world and their own needs and interests.

As part of the effort to create a school-to-work system in the state, a group of Connecticut residents traveled to Europe in June of 1994 to learn about apprentice programs for high school students. The group included educators, business people, state officials and a representative from organized labor. Although most of our time was spent in Germany, we also saw programs in Austria, Denmark and Sweden.

The trip was mainly funded by the German Marshall Fund and was organized by Lauren Weisberg Kaufman, Vice President for the Connecticut Business and Industry Association.

Most of us had read enough about European apprentice programs to have formed some preconceptions about what we would find. Much to our surprise, many of our preconceptions were wrong. We had tended to think of apprenticeships as programs for young people who could not succeed in the university. Clearly, we did not understand how strongly Europeans value the education that is received in work place settings.

As a group we concluded that European societies are right to value apprentice education because it is clearly designed to be rigorous and holds young people to very high standards. The sixteen- to eighteen-year-old students that we met were learning high level math and science, as well as being expected to learn about computers, history, communications, political science, their own language and literature, and English. Students who choose to enter an apprenticeship are not going to work at age sixteen. They carry on their education in a work place setting and continue to study academic subjects but now have work place examples to illustrate what they are studying.

In addition, all the programs spent time teaching what we would call "work place skills," such as working in teams and decision making. The programs also stressed learning how to interact with others and how to treat co-workers with respect and appropriate manners.

In general, the course of study followed by these sixteen- to eighteen-year-old students compared to what might be studied in Connecticut in the community/technical college system.

Are these young people inherently brighter and more motivated than the same age group in the United States? We don't think so. We do think that they are, in fact, better prepared than many of our high school students, but we also believe that, in general, a society gets what it asks for from its young people. In the U. S. we create an environment that encourages our teen-agers to avoid thinking seriously about building a base of skills for a career. We also ask them to study without providing a clear way of connecting their studies to real world problems and issues.

The System

Using Germany as an example of one of the best organized systems, we learned that students take basically the same subjects up through the age of fifteen. At that point a student has three choices:

1) To continue in an academic track that leads to the university;
2) To enter an apprenticeship in which academic and hands-on learning is shared between the work place and a vocational college; and,
3) To continue on for another year or two in a school setting before making a decision to go into an apprenticeship or toward the university.

Unlike the past, students today do not have to pass a test in order to continue on to the "gymnasium", the school that prepares them for college, but they still need to pass a test to enter one of the government-supported universities.

The apprenticeship system, itself, is prescribed in law, and roles are assigned. The system is administered jointly by the schools and industry, including both management and labor. All businesses must belong to a regional chamber of commerce, and these groups have a legal responsibility to represent industry in administering the system.

Among the people we met--union members, educators, business management, employees and people from the community--there was a great deal of support for the system. (Our group was envious of this evidence of consensus, realizing how difficult it is to achieve among such groups in the U. S.)

Because learning-by-doing is seen as the right way to educate, apprenticeships are offered in three hundred and eighty job categories in Germany. Each of these positions has national standards developed by industry, so that employers throughout the country understand what graduates should know and be able to do.

The range of occupations is very broad, including some that are not generally thought of as worthy of extensive training in the U. S., such as a sales associate in retail and workers for hotels and restaurants.

Some of our group visited a school that prepares young people to work in the tourism industry, particularly restaurants and hotels. We found the education impressive. The desk receptionist at the hotel in Austria had just graduated from a tourism school run by the Austrian government. The young woman was eighteen, was handling all the problems of the hotel on her shift and had studied history, geography, employment law, business subjects and computer. She spoke three languages in addition to German--English, French and Italian.

All the apprenticeships take from two and a half to three years to complete. Students are paid while apprentices and typically spend three and a half days a week being educated in a work place setting and a day and a half at a regional vocational college, where they take additional academic subjects. Although non-university-bound students may choose **not** to enter an apprenticeship, all young people are still required to be in a school at least one and a half days a week until age eighteen.

About seventy percent of young people, at sixteen, seventeen or eighteen enter an apprenticeship. Contrast this to the United States where about fifty percent of high school graduates enter college. About fifty percent of those students graduate. Therefore, only about twenty-five percent of our high school graduates become four-year college graduates, while the other seventy-five percent often do not bring to the work force the base of knowledge and skills that they need.

Underlying Philosophy

We realized that this major system for educating young people had to be supported by an underlying set of societal beliefs and values. In Europe some of these beliefs include:

- Sixteen- to eighteen-year-old students are not children, they are capable of sustained effort and learning sophisticated skills;
- In addition to university education, skilled trades and vocational training have status;
- All work has value and deserves to be done well;
- Learning by doing is the right way to educate;
- Preparing for the work force is a major focus of education;

- All parts of the society have a responsibility to educate the young--business and labor, as well as government, parents and the community;
- It is important to take a long term view and to be committed to the apprentice system, which means not cutting back during a recession to keep the pipeline filled.

The group felt it would probably be difficult to get a consensus on any of these beliefs in the U. S., particularly the one that states that "preparing for the work force is a major focus of education." Despite the fact that almost everyone ends up working and the fact that the quality of our lives is affected by our ability to succeed in our chosen work, we tend to assume that our children will learn everything they need to know about work somehow, some way, outside the educational system.

While Denmark and Sweden do not have as comprehensive a system as Germany, many employers and educators place a high value on an industry-based system. Members of the group found when visiting industry training centers at SAAB, ABB and Volvo in Sweden and Lego in Denmark that those employers receive many more applications for apprenticeships than they can accept. The system has become the one of choice for many young people, and there are efforts to replicate it at other companies.

Providing Good Information

During our stay in Munich we visited a labor exchange center, where high school guidance for careers is provided. The center in Munich encouraged young people to drop in to learn about jobs and industries. The day we were there several teen-aged students were looking at videos and checking out information about jobs, needed skills and the schools and apprenticeships that lead to those jobs. **Business takes responsibility for providing information to the government, and the government takes responsibility for getting the information to young people.**

(Connecticut has recently received a federal grant of $3 million a year for three years to create **one-stop career centers** throughout the state. The Department of Labor intends to ensure that students and young people find the centers helpful and easy to use. Our group believes this is an important step to make.)

Why Do Employers Participate in the Apprenticeship System?

The idea that 11th and 12th grade students can benefit from connecting their studies to the real world is actually gaining ground in U. S. schools. However, supporters of the school-to-work concept recognize that it will not be easy to convince American employers that they should make a major commitment of time and money to educating students.

We found that European employers take on apprentices for several reasons:

1) They see it as in their self-interest to do so. They believe that it is the best way to ensure a prepared work force, and they believe that if they do not train, they will have difficulty hiring the best young workers. (At least, the human resource people felt this way, but, in fact, they admitted that during business downturns, top management sometimes had to be reminded of the importance of the system.)

2) It is far less costly for employers to give young people the education and training they need to be productive employees than to try to hire people who have no knowledge of the culture of the company or of its product or service.

3) The system ensures that people are prepared for jobs that exist. For the most part, companies take on as many apprentices as they believe they will need and train in areas that they believe will have positions. Also, apprentices are exposed to a broad range of skills and knowledge before they are prepared for a single job.

Our group was surprised to find that the companies were not expected to spend time or money on remedial education. Young people came with good basic skills and were ready to continue on with higher level courses. In addition, in Germany there is a widely-held belief that a strong ability in the German language is essential to succeeding in the work world, and the education system provides extra classes in German to those who need them. (Although Germany does not have as many immigrants to educate as the United States, it has a sizeable Turkish and Serbian immigrant population.)

Some of the employers we talked with pointed out that they were in the process of trying to change their work places along the lines of total quality management concepts, with greater responsibility given to workers closest to production and with fewer decisions made at the top. They had incorporated these concepts into the training of apprentices and hoped that the apprentices would give encouragement and help to the older workers.

Is the European Educational System Perfect?

None of us thought so. For instance, although most university education is free in Germany, Sweden and Denmark, access to it is rather limited. In this country we can enter college to learn new skills and gain new knowledge at any age, turn our lives around and strike out in new directions when we're tired of the old ones. This is much less common in Europe.

Although laws call for equal opportunity, there did not appear to be a structured process for seeking out minorities or immigrants to enter apprenticeships or to attract women into apprenticeships for non-traditional areas.

Although there were laws requiring the hiring of people with disabilities, most of the buildings we were in did not appear to be adapted for people in wheelchairs. The apprentice programs did not appear to be prepared to make allowances for students with disabilities.

Those involved in the apprenticeship system were attempting to find ways to increase the mobility of workers once they had become employees. However, mobility has not been valued to the extent that it is in the U. S. and, therefore, lacks a support system both within the management of most companies and outside in the world of education.

Educators we talked with recognized the strength of the accessibility of our higher education system and were interested in learning how best to open up their system. At the same time, no one we talked with was interested in emulating our elementary and secondary system.

Did We Learn Anything Useful?

Yes, we believe so. For instance:

1) We learned how important it is to have united support for the apprenticeship system and recognized roles for all players. Although our hosts were fond of saying that the system went back to the guilds of the Middle Ages, it is also true that the system was put into law in 1956 and 1969 in Germany, for example, and carefully spells out the roles of government, employers, unions, chambers and education.

2) We recognized the necessity of believing that making a successful transition into the labor force requires the joint efforts of parents, students, employers, educators and the community.

3) Many of us also realized that high school age students do not have to be considered hopeless "adolescents," to be segregated from adult society until some time in the future. The young apprentices we met were very recognizably teen-agers--they wore Nikes, the printing on their tee-shirts was often American and they wore their hair long! But they were making a very well thought-out and structured transition to the adult world by putting their learning in a real world context.

4) We recognized that long term commitments by employers builds both a strong work force and loyalty to employers. We are concerned about the long term effects on the U. S. work force of the present environment of unstable relationships between employers and workers.

What Is Our Vision of a New System for Connecticut?

Although we recognize that the European apprentice system has its roots in particular cultural attitudes, as a group we have come to believe that our state could benefit from adopting some of the European concepts about education. We believe that there are several things Connecticut needs to do:

- We need to create a new relationship among employers, labor organizations and educators, with each recognizing the value and role of the other in educating young people;

- High schools in Connecticut should make it possible for many 11th and 12th grade students to spend part of the school day or year in structured programs with employers--business, government or non-profit;

- All schools should use applied, hands-on curricula because it places learning in context. The curricula should be improved by an interaction between employers and educators;

- School-to-work programs should become a priority of the education system;

- Discussions about the role of work in the fabric of the society and the knowledge and skills needed to succeed should take place with all age schoolchildren;

- By fourth grade our students should be proficient readers;

- By eighth grade our students should have very strong basic skills, demonstrated through performance;

- The education system should take advantage of all children's desire to learn by placing learning in the context of their lives;

- School buildings should be seen as only one place to learn; much learning should take place elsewhere;

- Our educational system should rely on a partnership between employers and educators at the high school and college level and should continue to offer adults the ability to enter higher education at any age;

- Age and grade level should be removed as a measure of ability. We have learned something when we can demonstrate that we can use the knowledge, regardless of age or grade level;

- Becoming fluent in English should be a basic focus of education because success in the work world requires it, but we should value being literate in other languages also;

- Management and labor should develop a combined commitment to the value of training workers, regardless of the economic climate;

- The planned regional one-stop career centers should develop a substantial capacity to work with young people who are investigating career possibilities.

How Close Are We?

During the past legislative session, Public Act 94-116 was passed. The Act called, "An Act Concerning Incentives and Training for High Performance Work Organizations and the School-to-Work Career Certificate Program" calls for the start of a school-to-work system for Connecticut. The bill encourages schools to:

- Create a planned program of learning that takes place both in the school building and in the work place;

- Organize information, instruction and work place experience around career clusters. The state Department of Education has recommended the following clusters:
  1) Arts and Media;
  2) Business and Financial;
  3) Construction: Technologies and Design;
  4) Environmental, Natural Resources and Agriculture;
  5) Government, Education and Human Services;
  6) Health and Biosciences;
  7) Retail, Tourism, Recreation and Entrepreneurism; and,
  8) Technologies: Manufacturing, Communications and Repair;

- Provide students who choose a career cluster the opportunity:
  - To learn about the industries in the cluster;
  - To integrate their studies with post-secondary education and the skill standards of the industries;
  - To spend time in structured work place programs, and,
  - To earn a statewide career certificate that guarantees that they can demonstrate what they have learned.

Our group believes that this is the right approach to take to introduce the concept of connecting our education system to the world of work.

IN CONCLUSION

For decades Connecticut's parents, educators and employers have focused on sending all students to four-year colleges. Four-year colleges and the knowledge they impart will continue to be very important, but meanwhile, there is a whole range of knowledge and skills that can be acquired in other ways: on-the-job, in a community/ technical college and in specialized schools and courses of all types.

Permitting students in high school to combine their studies with exploration of real life jobs will give them the background to choose their post-secondary education and training or employment with more understanding of the needs of the real world and their own needs and interests.

As a group, we admired the way the European societies accept responsibility for helping their young people join the adult world. We think there are probably many ways to do this well. But taking responsibility is the key, and we want to challenge Connecticut's educators, employers and parents to recognize that it is up to all of us to help our children understand how to succeed in their life's work.

PARTICIPANTS IN THE EUROPEAN STUDY TRIP

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Organizations and businesses visited during the trip:

Stuttgart, Germany
-Baden-Württemberg Agency for International Economic Development
-Ministry of Economic Affairs, Baden-Württemberg;
-State Parliament of Baden-Württemberg;
-Trumpf GmbH & Co., Ditzengen
-Willy-Rüsch AG, Kernen
-Vocational Training Center of Chamber of Commerce and Industry
-Berufschulzentrum Walblingen (Vocational Training School)
(Marina Robitschek-Rittaler from the Baden-Württemberg Agency for International Economic Development made all our arrangements and accompanied us on our visits. Thank you for everything, Marina.)

Munich, Germany
-Deutsche Aerospace AG, Manching
-Chamber of Commerce and Industry
-MTU-Munich
-Labor Exchange Center
-Commerzbank AG
-Bayerische Vereinsbank AG
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Biberach, Germany
-Thomae GmbH

Innsbruck, Austria
-Villa Blanka, Hotelsachschule
-Hotel Geisler-Judenstein

Stockholm, Sweden
-Sveriges Verkstads Industrier, The Association of Swedish Engineering Industries
-The Swedish Metalworkers Union.

Sodertalje, Sweden
-SAAB-SCANIA Industrial Senior High School

Finspang, Sweden
-ABB STAL Industrial School

Skovde, Sweden
-Volvo Industrial/Technical High School

Jonkoping, Sweden
-Almi, Jonkoping Economic Development Agency

Billund, Denmark
-Lego Systems, Inc.

Current Planning Activities for a School-To-Work System in Connecticut:

-Identification of career clusters that encompass all major industries in the state;
-Identification of the academic, work place and technical skills needed to qualify for entry level jobs in each cluster;
-Development of certificates of initial mastery for each cluster;
-Identification of curriculum activities that support the skills needed;
-Identification of professional development for teachers and administrators;
-Development of plans to market system to schools, businesses and communities;
-Submission of proposal to federal government for federal implementation funds to put the system in place.

For additional information on these activities contact: Leslie Averna, Acting Associate Commissioner, Division of Educational Programs and Services, State Department of Education, 25 Industrial Park Road, Middletown, Connecticut 06457; telephone: 638-4000.